



# AutoFil Recycler System

## Flatproofing Technical Manual





This manual is intended to assist the tire fill technician in the operation of the AutoFil Recycler System. It covers the basic operation of the machine, procedures for filling a pneumatic tire and general maintenance of the machine. Inside you will find the basic steps incorporated in the control, air/water valve procedure for filling a tire, general troubleshooting if problems occur and general procedures for fixing the machine if problems occur. Like any computerized machine there is a learning curve involved depending on the operator, our experience has led us to a conclusion that the curve is anywhere from one (1) month to three (3) months. If any mistakes are found in the manual please contact us so that we can fix them.

Your cooperation is deeply appreciated.

THANK YOU AND WELCOME TO THE TEAM,

Accella Tire Fill Systems  
Technical Services Department  
Office: 800.821.4147  
Normal Hours of Operation  
8:30 am - 4:30 pm EST

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# Safety and Machine Warnings



**FIRST RULE OF OPERATING ANY AUTOMATED MACHINE**



EYE PROTECTION REQUIRED, EITHER SAFETY GLASSES OR FULL FACE SHIELD



KEEP HANDS AWAY FROM SPINNING PARTS



RUBBER GLOVES SHOULD BE WORN WHEN POLYURETHANE FILLING A TIRE



CLEARANCE SHOULD BE ALLOWED FOR OPENING ELECTRICAL BOX DOOR IN CASE OF REPAIR



MACHINE SHOULD BE DISCONNECTED FROM POWER SOURCE BEFORE STARTING ELECTRICAL OR MECHANICAL REPAIRS



ONLY AUTHORIZED PERSONNEL SHOULD BE WORKING INSIDE OF CONTROL CABINET DUE TO DANGER OF ELECTRICAL SHOCK



ELECTRICAL BOX DOOR SHOULD BE CLOSED WHEN OPERATING THIS MACHINE



A TIRE FILL TECHNICIAN IS REQUIRED WHEN MACHINE IS IN OPERATION



# Precautions When Operating the AutoFil Recycler System

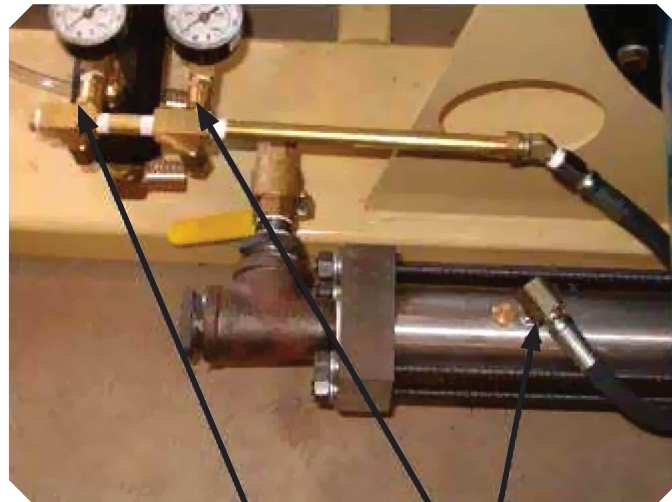
1. When working on the machine other than polyurethane filling a tire, make sure the “EMERGENCY STOP” is pushed in or the machine is powered down.
2. When you are not using the foot pedal, make sure it is out of the way so that you do not accidentally step on it and cause the machine to run.
3. The blades in the main hopper are very sharp and can cause very bad cuts, use extreme caution when working in this hopper. It is recommended that you use hand protection.
4. The flights on the injector auger are sharp, use extreme caution when working with this auger. It is recommended that you use hand protection.
5. Do not place hands inside the injector hopper when machine is running.
6. Keep hands, loose clothing, rags, etc., away from moving parts
7. It is recommended that eye protection is used when polyurethane filling a tire. A full face shield offers the best protection.
8. If polyurethane is splashed into the eyes, flush immediately with water. If irritation persists, seek medical attention.
9. It is recommended that hand protection be worn when working with polyurethane as it can cause skin irritation.
10. Make sure your tote valves are open before running the machine as air pockets in the lines can cause damage to the pump.
11. Be careful that nothing other than polyurethane filling material goes through the injector hopper or main hopper.
12. When using the foot pedal, caution should be observed. When using the foot pedal normal safe-guards are bypassed, operate with caution.
  - Final Pressure is ignored (over pressurization is possible)
  - Final Weight is ignored (over pressurization is possible)
13. A foot pedal was added for the convenience of topping off tires and spares to force the machine to run in the event of problems or maintenance. It must be kept in a safe place when working on the machine.

# Warm Weather Precautions

(85° F and above)

Due to the fact that the machine induces heat into the barrel and fill unit by pushing dry regrind into these components, the following precautions should be taken:

1. If running at a ratio of 65/35 and the barrel and gun start getting too hot, you can switch down to 40/60 ratio for about 5 minutes and these components will cool down (this is more prevalent in the larger tires).
2. In larger tires, it is more common to run 55/45 during hot and humid days.
3. Fill hose, fill gun and A/B mixer system should be cleaned daily and kept in alcohol overnight, except for plastic mixer.
4. Desiccants must be used on "ISO" (Pre-Polymer) tank in humid weather.
5. All recycled material must be properly handled, stored and kept dry at all times.



Disconnect from these points and include mixer tube and A/B delivery hose from barrel and clean daily.

# *Winter Precautions*

1. Tire fill totes and regrind materials must be brought up to a minimum of 72° F.
2. Do not use liquid in the totes that is not above 72° F in the machine.
3. Filled tires must be cured at a minimum temperature of 72° F.
4. Tires require pre-stretching before filling.
5. All material must be properly handled, stored and kept dry at all times.
6. Dessicant must be used on “ISO” ( Pre-Polymer ) tank.

# *Precautions to be Taken Before Loading Polyurethane Fill Chunks into Grind Hopper*

1. No metal should be allowed to get into the Grinder Hopper. Metal can cause the following problems depending on the size:
  - a. Large Metal Pieces
    - i. Torque hub, rear gearbox, motor inverter and grinder screw can be damaged
    - ii. Screen Plate could be severely damaged
  - b. Small Metal Pieces
    - i. Damage to screen plate or injector screw if allowed to pass through screen plate
    - ii. Plugged valve stem or needle causing backups into hopper of liquid
2. All chunk should be visually checked for metal of any type.

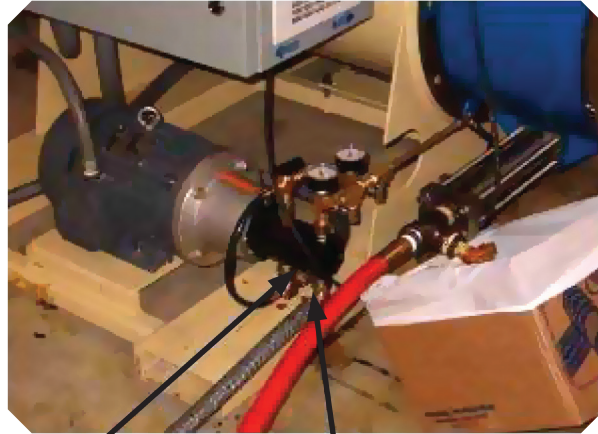


3. Chunks should be checked with a metal detector. We have found the one below to be very effective for checking chunk and is provided with each leased AutoFil Recycler System.



- Use only clean, non reverted material.
- Recommend separating LOW, MID, and HIGH Durometer materials.
- Do not use water-based fills in the AutoFil Recycler System.

# *Liquid Set Ups*



REAR

FRONT

“CAT” (polyol) tote to front of pump

“ISO” (pre-polymer) tote to rear of pump with run/clean valve and bypass hose

# Control Buttons





# Machine Control Buttons

## Operation Buttons



- This button starts the filling process. The grinder, injector, and the A/B pump start together. All operations continue until either STOP, PROC. JOG or FOOT PEDAL is pressed.



- This button allows the machine to operate as long as the button is pressed. When released, all operations stop.



- This button stops all processes instantly.

## Jog Buttons



- This button when pressed runs the grinder forward at the last set speed. Only operates grinder as long as button is pressed.



- This button when pressed runs the grinder in reverse at the last set speed. Only operates grinder as long as button is pressed.



- This button when pressed will run the A/B pump forward. Only operates A/B pump as long as button is pressed.



- This button when pressed will run the injector forward at the last set speed. Only operates injector as long as button is pressed.

## Operation Buttons



These buttons reset the inverters to recover from a fault.

If the machine shuts down unexpectedly, one of these buttons will light up indicating which function of the machine caused the shut-down.

**This light indicates a problem with the machine. Correct problem first before resetting. CAUSES OF POSSIBLE SHUTDOWN:**

1. PLUGGED OUTLETS OR LINES
2. OVERLOADING THE GRINDER

Pushing lighted button resets function.

## Mix Ratio Buttons

### High Speed for Ratio Buttons

**\*\*\*FILL SPEEDS AND MIX RATIOS CAN BE CHANGED WHILE MACHINE IS RUNNING\*\*\***



No reclaimed material being used, 13.5 lbs.  
per minute being pumped.

- 40% reclaimed material and 60% virgin material, 18 lbs per minute being pumped.
- Most common fill speed. 55% reclaimed material and 45% virgin liquid. 28 lbs. per minute being pumped.
- 65% reclaimed material and 35% virgin liquid. 28 lbs. per minute being pumped.

## Low Speed for Ratio Buttons



No reclaimed material being used, 3.5 lbs. per minute being pumped.

- 40% reclaimed material and 60% virgin material, 12 lbs. per minute being pumped.
- Most common fill speed. 55% reclaimed material and 45% virgin liquid. 10 lbs. per minute being pumped.
- Light Duty Applications: 65% reclaimed material and 35% virgin liquid. 10 lbs. per minute being pumped.

## Grind Speed



***When the operator presses an orange or blue mix ratio/speed button, it sets the grinder to a slightly higher speed than is required by the injector and will light one of the four grinder speed buttons indicating the speed at which the grinder is running.***

***GRIND 1 = FASTEST***

***GRIND 4 = SLOWEST***

**IF HOPPER IS FILLING TOO FAST, SELECT SLOWER GRIND SPEED**

**Grind Speed can be changed while machine is running**

# *Emergency Stop (Panic Button)*



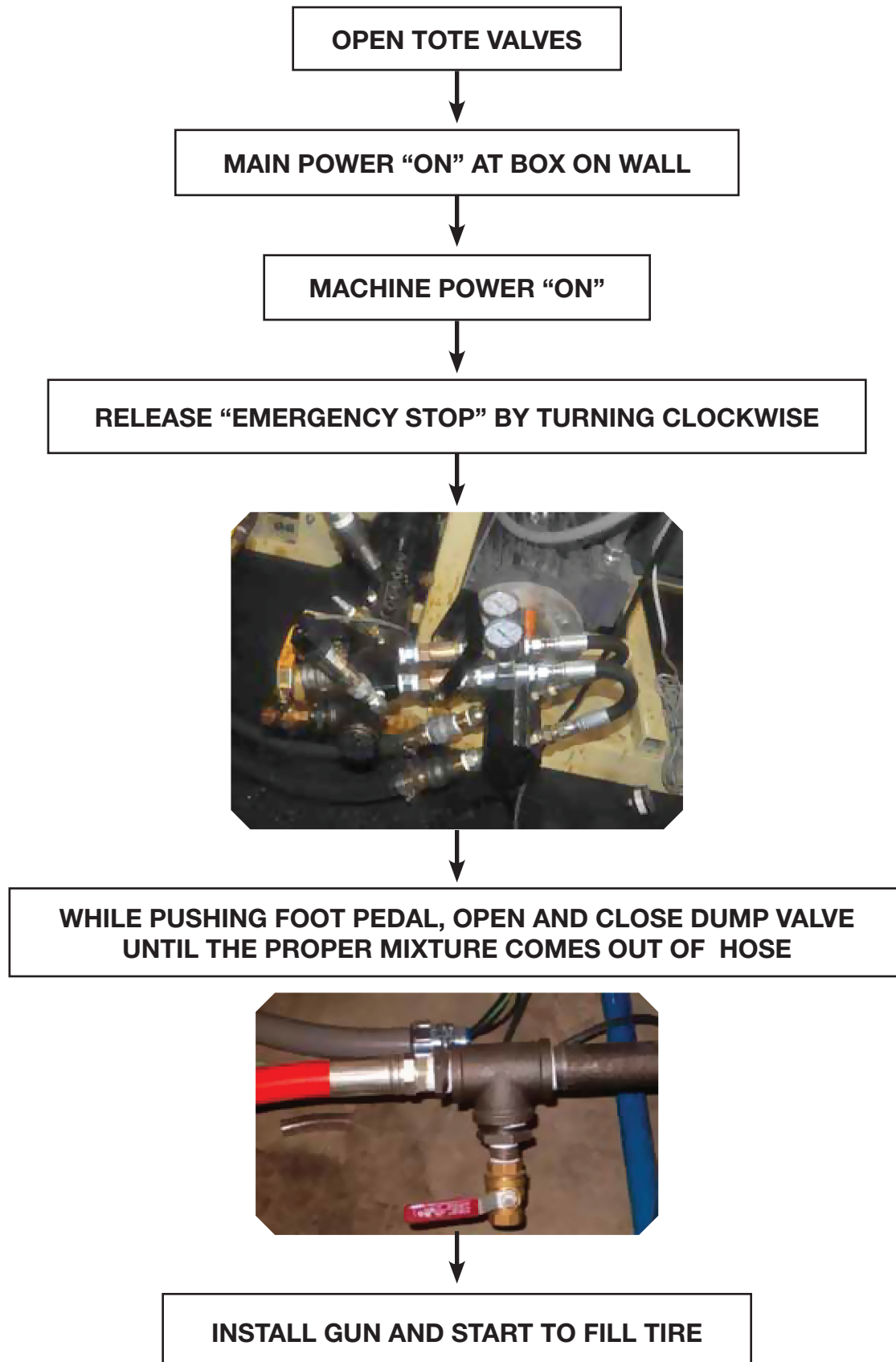
***STOPS ALL OPERATIONS OF THE MACHINE AND PLACES THE  
INVERTERS INTO EMERGENCY STOP MODE***

***USED FOR EMERGENCY THAT THREATENS THE OPERATOR OR  
EQUIPMENT***

***SAFETY FEATURE:***

- 1.** OPERATOR MUST TWIST THE BUTTON TO THE RIGHT TO RELEASE IT.
- 2.** MACHINE MUST BE RESTARTED AFTER EMERGENCY STOP.

# *Basic Machine Start Up*



# *Proper Filling Procedure for Pneumatic Tires*

1. Place tire in a safety tire cage or secure with tire chains.
2. Position the tire to be filled securely at the end of the length of the fill hose. Be sure you know how many pounds are required and to what pressure the tire must be filled.
3. Follow recommended procedures for pneumatic (standard air) filling such as checking the lock ring periodically and not over-pressurizing.
4. Attach the fill hose to the fill gun. Position the tire with the valve stem at the six o'clock position to ensure filling the tire from the bottom up. Relieve valve stem pressure by supporting the hose as necessary.
5. Select your recycle ratio and running speed. For example, 65/35 high would mean that you would be pumping 65% recycled material and 35% virgin material at a rate of 28 pounds per minute. These settings can be changed while the machine is running. The 55/45 and 40/60 pound speeds are to be used with air/water valves for most of the filling time and the 55/45 and 40/60 low speeds are to be used for small tires.
6. DRILL YOUR RELIEF HOLE IN THE TIRE! Refer to the manufacturer specification as to the exact placement of this relief hole.
7. Feed the main grinder as necessary to maintain one-third to two-thirds of grind in the sight window. Do not allow the sight window to go over or under these limits as each will create a separate problem. You can maintain these levels in several ways. 1) By varying the grinder speed with number one being the fastest and number four being the slowest. 2) By the size of chunk you put in the hopper (the smaller it is the faster it will be ground up). 3) By the rate you throw the chunk into the hopper. 4) By the running ratio and the grinder speed you select. Selecting 65/35 and grinder speed two (2) will allow the hopper to catch up while 65/35 and grinder speed of (4) will empty the hopper quickly. This level is maintained by the operator, and has many variables.
  - a. **THE CHUNK MUST BE INSPECTED BY THE OPERATOR TO THE BEST OF HIS ABILITY. REJECT ANY CHUNK THAT IS OF A GREASY OR SLIMY NATURE. ALSO REJECT ANY CHUNK THAT SHOWS SIGNS OF FOREIGN OBJECTS, ESPECIALLY METAL, THAT CANNOT BE EASILY REMOVED. THE MACHINE CANNOT GRIND METAL!**
7. Make it a habit to frequently check the CAT and ISO tanks for equal draw and the gauges for even pressure readings while running the machine. This will help you catch problems early. If you forgot to switch from clean to run, the left gauge will read almost nothing and the right gauge will read high. Also the polyol tank will empty and the isocyanate tank will not.



8. On larger tires with long run times (500 pounds or more), you will periodically need to open and close the sample valve for one or two seconds while the machine is running to keep it from setting up and to confirm that the mix looks good. Opening the sample valve changes the pressure and flow characteristics in the mix chamber producing a spotty mix at high recycled material concentration. This is normal.
9. The operator must change the recycle ratio to 40/60 as soon as or slightly before the tire cavity is full. It is essential for the main line to be full of 40/60 for the pressure gauge to read quickly and accurately. It helps to reduce the recycle ratio 60/40 a little before the cavity is full. On a 4.80-8 you may need to pump the whole tire with a 40/60 mix to allow the fill line to be fully purged of stiff material because the tire only takes about 20 pounds of fill, and the line holds 10 to 15 pounds of fill depending on the hardware and the length of the hose.
10. When the cavity is full, allow the pressure to build for three or four seconds for the air to be completely purged from the tire. You can help this process by re-drilling the same relief hole. Be sure that the relief hole is kept clear during the fill process.
11. When you are satisfied that all the air is purged from the tire stop the machine, plug the relief hole and read the pressure.
12. If the pressure is too great, open the sample valve and close it periodically to read it. If the pressure falls too low, select a 40/60 mix ratio and run the machine a few seconds. Stop the machine and re-read the pressure.
13. If you filled the tire completely with 65/35, you can not get the pressure to go low enough or can not get an accurate pressure reading because the mixture is too stiff to flow backwards and out of the sample valve.
14. Disconnect fill hose from the tire.



# *Accurately Determining Tire Pressures*

## Procedures

1. After plugging the weep hole, lean the mixture out to 40/60.
2. Stop the machine or press the jog pedal.
3. Wait for the pressure to stabilize.
4. Read pressure.
5. Restart the machine or press the jog pedal if more pressure is needed and repeat until pressure is attained. If pressure is too much, the sample valve can be opened to bleed off pressure.

# *Polyurethane Tire Filling Using Air/Water Valves*

## **CAUTION**

**When Polyurethane Tire Filling Be Sure To Wear Proper Safety Equipment!!!!**

- 1. Goggles Or Face Shield**
- 2. Rubber Gloves**
- 3. Long Sleeve Shirts**
- 4. Safety Shoes**

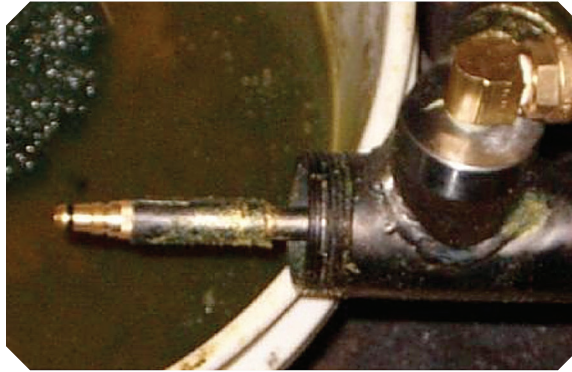
**Step 1.** Air water valves are the only valves that can be used with our machine and fill gun, no curved valves or thin style valves.



**Step 2.** Thread the fill gun adapter on to the valve stem until completely seated ( do not over tighten, just snug ).



**Step 3.** Insert valve core into fill gun plunger shaft making sure it is completely seated in the holder. Make sure plunger is completely pulled back to the rear of the fill gun.



**Step 4.** Attach gun body to fill gun adapter assembly on valve stem.



**NOTE: ALWAYS FILL TIRES FROM THE BOTTOM UP**

**Step 5.** This is how the fill gun should look like when properly attached to tire.



**Step 6.** Select fill ratio.



**Step 7.** Press start to start machine for tire filling.

**Step 8.** Drill weep hole.



**Step 9.** When foam fill starts flowing out of weep hole continuously, plug weep hole with screw or nail.



**Step 10.** Check pressure.



**WARNING: DO NOT LEAVE GAUGE OPEN DURING PUMPING, DAMAGE COULD OCCUR TO THE GAUGE**

**Step 11.** Continue checking pressure until you are within 5 to 10 psi of tire pressure.

**Step 12.** Select either 40/60 or virgin only to fill the tire to desired pressure.

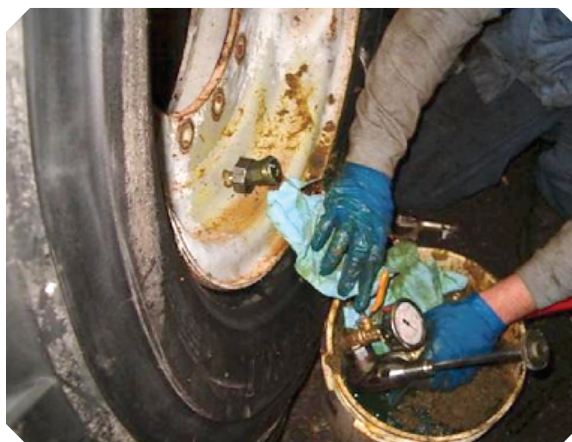
**Step 13.** Insert valve core into valve stem.



**Step 14.** Remove fill gun body from fill gun adapter assembly.

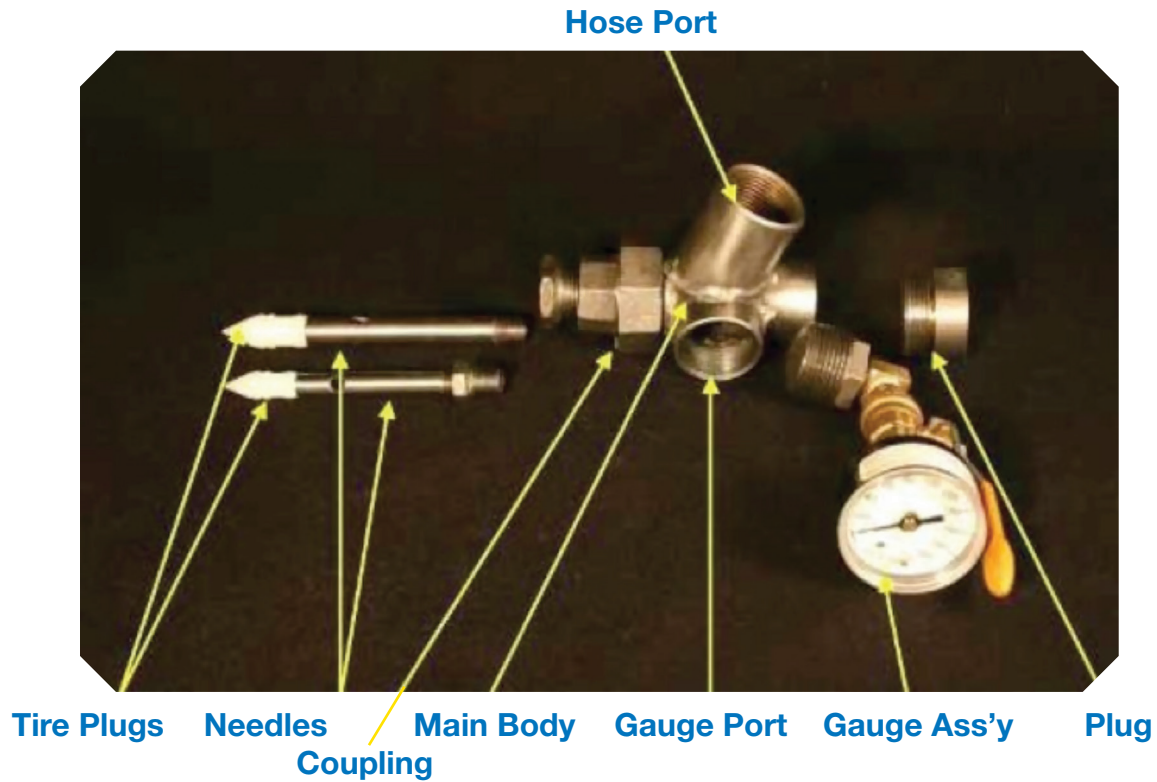


**Step 15.** Place fill gun body over bucket.





## Side Waller Gun Assembly



## Assembled Needle Gun



# Filling Procedures Using the P-C Industries Side-Waller Fill Guns

## Caution

When pumping polyurethane tire fill, be sure to wear proper safety equipment!!!!

- Goggles or face shield
- Rubber gloves
- Long sleeve shirts
- Safety shoes

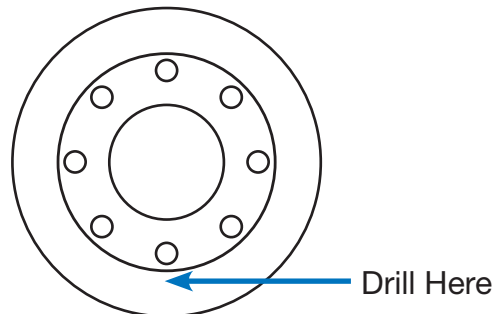
**Step 1:** Select fill ratio that you wish to use:

- |                |             |
|----------------|-------------|
| a. 65/35       | high or low |
| b. 55/45       | high or low |
| c. 40/60       | high or low |
| d. Virgin only | high or low |



**Step 2:** Drill a hole in the side of the tire on the opposite side of the tire as the stem. Stem should be at the six o'clock position and the hole position should be as shown.

**Note:** always fill tires from the bottom up.



**Step 3:** Insert needle and plug completely into tire with gauge valve closed.

**Step 4:** Start machine.

**Step 5:** Drill weep hole at top of tire at the highest point in the cavity.



**Step 6:** Fill tire until fill starts to come out of weep hole and all air is out of tire and fill runs continuously.

At 50 psi it is possible the needle could push out of the tire, allowing fill to flow from holes in needle. It is best to hold gun into tire until tire psi is achieved when over 50 psi.

**Step 7:** Plug weep hole.



**Step 8:** Check pressure by opening handle on gauge valve after checking closed gauge valve.

**Warning:** Do not leave gauge valve open during pumping, damage could occur to the gauge valve.



**Step 9:** Fill tire to within 10 psi of recommended pressure.

**Step 10:** Change machine over to 40/60 or virgin for the last 3 to 5 minutes of pump time. Need a thin mix at the needle for best pressure readings.

**Step 11:** Once psi is attained stop machine.

**Step 12:** Pull needle out until back edge of plug can be seen.

**Note:** When pulling needle back, make sure that you cover the holes with your hands or a rag to prevent being squirted with fluid.



**Step 13:** Loosen coupling and unscrew needle from plug.

**Step 14:** Lay tire down and allow fill to cure (could take up to 24 hours).

**Step 15:** After cure, cut or grind plug until it is even with tire.



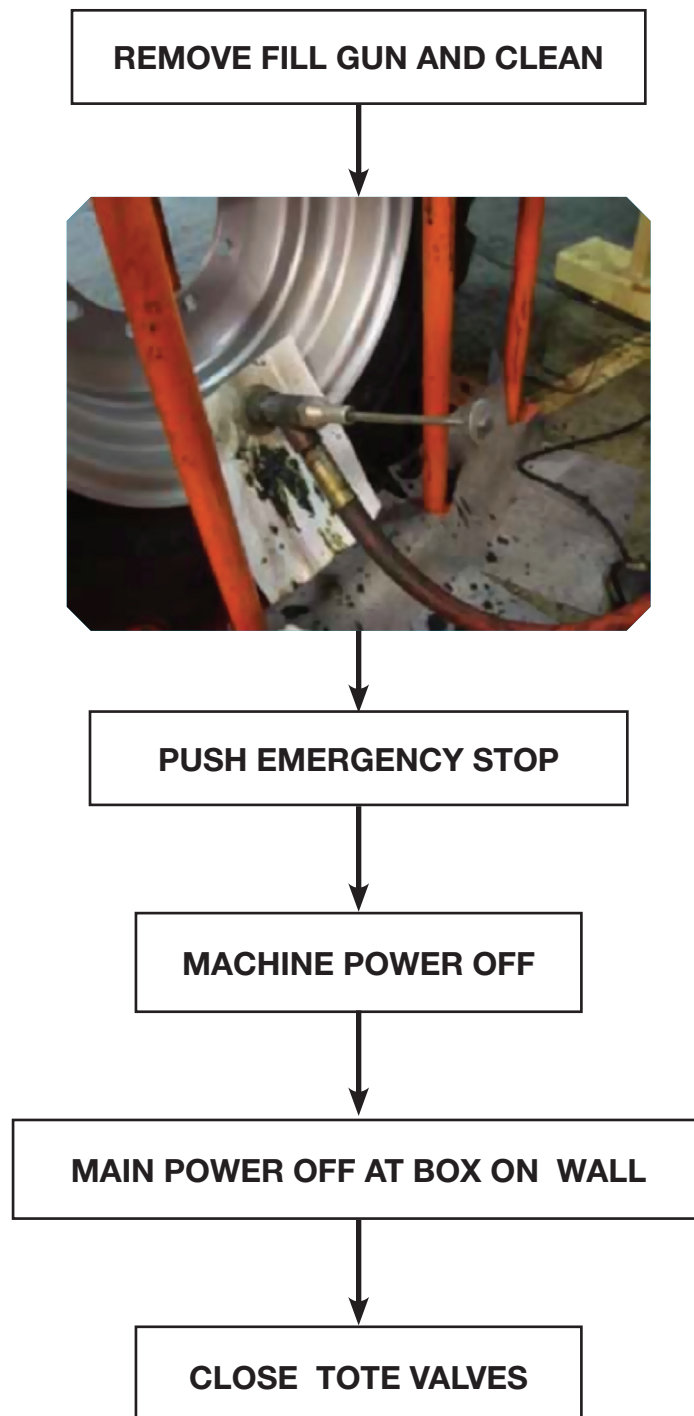
# *Sidewall Polyurethane Tire Filling on a Tube-Type Tire*

## **This Procedure Will Give The Most Reliable Method Of Flatproofing A Tube Type Tire**

1. Remove the tube and lay it down with the valve stem pointing up.
2. Glue a large round patch directly opposite the valve stem on the side wall of the tube where the needle will be entering the tire.
3. Place the tire on the floor and put a mark to indicate where the valve stem will be positioned at the time of mounting the tube in the tire.
4. Directly opposite the mark (from Step #3) drill the appropriate sized hole through the sidewall where the needle/bullet will enter.
5. Place the tube in the tire with the valve stem properly positioned at the mark placed on the sidewall of the tire (Step #3).
6. Confirm that the hole drilled in the sidewall is positioned directly over the patch (Step # 2) on the tube.
7. Air tire assembly up enough to seal the bead.
8. Remove the valve core and let the pressured air escape.
9. Replace the valve core and hook valve up to a regulated air supply that is set between 15-20 psi.
10. Once the tire has reached the regulated air pressure, drill through the sidewall again (Step #4) to pierce the tube. Drilling should be smooth and steady.
11. **WEAR SAFETY GLASSES.** Air will immediately start coming out of the sidewall hole and will continue to due to the air line hooked up to the valve. **THIS IS WHAT YOU WANT, IT KEEPS THE TUBE IN POSITION.**
12. Insert the needle/bullet at a slightly downward angle into the sidewall hole and through the patched tube.
13. To verify that the opening of the needle is inside the tube, you can open the sample valve at the beginning of the fill hose and material should start moving backwards in the hose and exit at the sample valve.
14. If the needle is in the correct position - **START MACHINE PUMPING.**
15. After about 15-20 seconds of fill time, remove the regulated air line from the valve stem and verify there is a core inserted, **(NO AIR SHOULD BE ESCAPING FROM THE VALVE STEM).**
16. Drill the top of the tire for the weep hole and insert vent needle just deep enough to be inside the tube. **NOTE:** Once you drill the weep hole at the top of a tube type tire it is important to keep some air pressure in the tire/ tube cavity while filling but not a lot, just enough to help hold the tube out in position against the inner liner of the tire so that the tube doesn't sag and it helps to keep the weep hole in the tire carcass aligned with the weep hole in the tube.
17. After all the air has escaped through the vent needle and tire fill is weeping steady, plug the weep hole.
18. Continue pumping until desired pressure is reached.
19. Set the bullet by pulling out on the needle assembly, **(REMEMBER SAFETY GLASSES)** until bullet locks into proper position.
20. Unscrew needle from bullet.
21. Complete.

# *Cleaning the OE AutoFil Recycler System After Use*

## Basic Machine Shut Down





# *Troubleshooting Machine Problems*

## Problems That Could Occur While Polyurethane Filling a Tire

### **Problem #1: Blockage in the fill hose**

- a. The fill hose becomes pinched by a sharp bend that causes a collapse of the fill hose wall
- b. Fill hose is plugged by solidified material

#### **Solution:**

- a. Move the tire further away so that the hose lies in a gentle curve or a straight line
- b. Replace fill hose

#### **Prevention:**

- a. Fill hoses that are pinched create weak spots in the hose and should be replaced
- b. Clean fill hose with alcohol after every daily use

### **Problem #2: Blockage at valve stem**

- a. Piece of metal or other hard substance lodged in the valve stem
- b. Valve stem too small

#### **Solution:**

- a. Open the bleed (sample) valve to relieve pressure on the hose, disconnect the fill valve and clean valve stem. Once cleaned re-connect fill valve and resume pumping.
- b. This machine uses only large bore valves (valve stem bore = 1/4" or larger)
- c. Valve core inserter on gun not pulled back

#### **Prevention :**

- a. Metal detect all chunk before placing in the machine. Note: Foreign material can cause damage to machine components.
- b. Use only large bore valves
- c. Make sure valve core inserter is pulled back to its farthest point

### **Problem #3: Bullet comes out of tire (SIDE-WALLING)**

- a. Drill hole is too large
- b. Wrong bullet for side wall thickness
- c. Wrong service application for side walling
- d. Bullet pulled out too far

**Solution:**

- a. Large bullets require a 27/64" drill bit, Small bullets require a 21/64" drill bit
- b. On thin walled tires, it is recommended that the small bullet be used
- c. On very rough service duty tires, it is recommended that valve stem filling be used
- d. Push bullet in by hand further or replace bullet with new one

**Prevention:**

- a. Make sure you are using proper drill bits
- b. Make sure application of tire is correct
- c. When pulling bullet out, make sure you pull out to where the end of the needle is exposed

**Problem #4: Bullet and needle will not go into tire**

- a. Drill hole is too small
- b. Bullet and needle not lubricated
- c. Bent needle

**Solution:**

- a. Large bullets require a 27/64" drill bit, Small bullets require a 21/64" drill bit
- b. Lubricate needle with liquid polyurethane fill from scrap bucket
- c. Replace needle

**Problem #5: Gauge not working when checking pressure**

- a. Gauge left open while filling a tire
- b. Rubber on gauge bad
- c. Improper cleaning of gauge
- d. Liquid missing in gauge face
- e. Tire pressure too low for accurate reading with 65/35

**Solution:**

- a. Ensure that gauge is closed when filling the tire
- b. Diaphragm needs replaced
- c. Make sure gauge is wiped with alcohol only at end of use
- d. Replace gauge

# Potential Failures That Could Occur

## **Problem #1 --- Backup Into Hopper Area**

- a. Plugged valve stem
- b. Plugged fill hose
- c. Injector screw has material buildup on flights
- d. Injector screw worn or damaged
- e. Injector barrel worn or damaged
- f. Too much time taken between pressure readings ( run cycle ) on large capacity tires
- g. Too much time taken between pressure readings ( run cycle ) on high pressure tires
- h. Regrind in hopper too fine
- i. Injector screw run with liquid only, no regrind in system

### **Solution:**

- a. Remove problem parts and clean entire hopper and injector system
- b. No polyurethane fill should be attached to any part of the injector screw, barrel and screw area of hopper or bearings after cleaning
- c. Replace worn parts and clean entire hopper and injector system
- d. Reduce time
- e. Too soft of chunk, mix with 75% hard and only 25% soft, problem with grinder flight spacing to screen plate
- f. Fill hopper and jog injector to place ground chunk into barrel

## **Problem #2 --- Noisy Injector Screw**

- a. Injector screw or injector barrel worn or damaged
- b. Coupling spider bad
- c. Injector bearings bad
- d. Injector spacers worn
- e. Couplings loose
- f. Alignment between couplings bad

### **Solution:**

- a. Replace worn or damaged parts
- b. Tighten and align couplings

## **Problem # 3 --- Regrind In Hopper Too Fine**

- a. Chunks being placed into grind area are too small
- b. Clearance between grinder screw and screen plate is wrong (CLEARANCE SHOULD BE NO GREATER THAN 1/32")
- c. Screen plate worn
- d. Grinding only soft chunks ( 8 — 10 durometer fill)

**Solution:**

- a. Regrind chunks should be approximately 12" x 12" as the smallest
- b. Weld grinder screw area on face of flights and grind down to create allowable clearance allowed between grinder screw and screen plate
- c. Inspect screen plate if damaged, open holes by drilling and reverse if one side is good
- d. Mix chunks so that 75% is hard chunk with 25% being soft chunk

**Problem #4 --- Loss Of Pressure At "CAT" or "ISO" Side Of Pump**

- a. Defective gauge
- b. Tote valves not opened
- c. Tote supply lines plugged
- d. Tote lines to pump are empty or have air bubbles present
- e. Defective pump

**Solution:**

- a. Replace gauge
- b. Open totes and make sure that there is no air in the supply lines
- c. Supply lines should be replaced every year
- d. Replace pump

**Problem #5 --- Too High Of Pressure At A/B Pump Causing Machine To Go Into A/B Pump Reset**

- a. Plugged mixer tube
- b. Plugged A/B hose
- c. Defective check valves
- d. Plugged A/B system
- e. Clogged injector barrel at A/B hose connection
- f. Check valves backward if recently changed

**Solution:**

- a. Clean entire A/B system from pump to injector barrel
- b. Check or replace check valves
- c. Liquid should be kept at 72°F as per manufacturer specifications

**Problem #6 --- Hopper Will Not Keep Up With Fill Rate**

- a. Grinder empty
- b. Hopper empty
- c. Hopper grind speed set too low
- d. Using chunks that are either too large or too small in the grinder area
- e. Grinding only soft durometer fill
- f. Plugged screen plate

- g.** Problems in grind screw area ( not usually a problem )
  - Torque hub
  - Grind screw gearbox
  - Grind screw motor
  - Inverter

**Solution:**

- a.** Stop machine before hopper is completely empty or back flow will occur. Fill grinder area and manually fill hopper to about 3/4 full
- b.** Increase grind speed - remember 1 is fastest and 4 is slowest
- c.** Chunk normal size should be approximately 12" x 12"
- d.** Machine should be run with approximately 75% hard chunk and 25% soft chunk
- e.** Repair screen plate
- f.** If problem in grind screw area, contact manufacturer

**Problem #7 --- Grinder Screw Will Not Turn Or Grinder Goes Into Reset Mode**

- a.** Metal in grind hopper causing screw to jam
- b.** Using chunks that are too small in the grinder area
- c.** Defective torque hub
- d.** Defective gearbox
- e.** Defective motor
- f.** Defective inverter or inverter is in alarm state
- g.** Loss of phase

**Solution:**

- a.** Remove front of machine
- b.** Chunk normal size should be approximately 12" x 12"
- c.** If torque hub, gearbox or motor is suspected, contact manufacturer
- d.** Check incoming power or inverter power to motor

**Problem #8 --- Injector Will Not Run And Inverter Goes Into Alarm**

- a.** Using too small of air valves
- b.** Valve is plugged
- c.** Material has setup in system, waiting too long between tire fillings
- d.** Forgetting to set the A/B system to run mode at the run/clean valve
- e.** Metal jamming the screw
- f.** Loss of liquid causing only dry fill to flow through
- g.** Defective coupling
- h.** Defective spider in coupling
- i.** Gearbox problem

- j. Injector in reset mode
- k. Inverter problem
- l. Motor problem
- m. Loss of phase

**Solution:**

- a. This machine requires that you use only big bore valves or air/water valves
- b. Remove blockage from machine and clean
- c. If a long time is required between tires, it is recommended that you run a clean cycle
- d. Inspect injector screw area for metal and damage
- e. Inspect and clean A/B system if required
- f. Inspect, repair and/or replace couplings
- g. Inspect, repair and/or replace gearbox
- h. Check inverter for alarm and compare to inverter troubleshooting section
- i. Check motor. If there is a problem, contact manufacturer
- j. Check incoming power or inverter power to motor

**Problem #9 --- Machine Will Not Run After Start Button Is Pushed**

- a. Emergency Stop activated ( RELEASE )
- b. Fill ratio not selected
- c. Reset mode on machine or inverters
- d. Keyboard bad
- e. PLC defective

**Solution:**

- a. Release emergency stop and select fill ratio
- b. Check inverter for alarm and compare to inverter troubleshooting section
- c. If keyboard or PLC is suspected, contact manufacturer

**Problem #10 --- No Lights On Keypad Or Inoperative Keypad**

- a. Emergency Stop activated ( RELEASE )
- b. Loose cable
- c. Bad keypad
- d. PLC problem

**Solution:**

- a. Release emergency stop and select fill ratio
- b. Check cable between PLC and keyboard
- c. If keyboard or PLC is suspected, contact manufacturer



### **Problem #11 --- Foot Switch Inoperative**

- a. Bad foot switch
- b. Bad cable
- c. PLC problem

#### **Solution:**

- a. Check footswitch and cable using meter, normal state is n/o
- b. If PLC is suspected, contact manufacturer

### **Problem #12 --- Machine Runs Very Slowly Or Intermittantly**

- a. Incoming power problem
- b. Inverter problem

#### **Solution:**

- a. Check for incoming power that all three phases are good and voltage is not too low
- b. Check inverter for alarm and compare to inverter troubleshooting section

### **Problem #13 --- Motor Overheat**

- a. Incoming power problem
- b. Phase loss
- c. Inverter problem

#### **Solution:**

- a. Check for incoming power that all three phases are good and voltage is not too low
- b. Check inverter for alarm and compare to inverter troubleshooting section
- c. Check motor with proper meters or contact manufacturer

### **Problem #14 --- Gearbox Overheat**

- a. Oil problem ( change oil )
- b. Defective gearbox

#### **Solution:**

- a. Change oil
- b. Repair or replace gearbox



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